

ABSTRACT OF THE DISCLOSURE

Information about an exclusive operation among a plurality of blocks and interconnection information about a sharable resource within each of these blocks are defined. Based on the sharable resource information and the inter-block exclusive operation information, a resource sharable among the blocks is extracted. Module specifications, in which information about interfaces, power dissipation, operation models and top-level hierarchy interconnection is stored, exclusive operation information describing an exclusive operation rule among the blocks, and prioritized function information used for preventing respective functions from being enabled at the same time are input to a generator, which is an automatic generating tool. In this manner, a power and clock management module for use in power save management, a wrapper bank select module storing interconnection information, a shared resource module storing information about a sharable resource and an optimized top-level hierarchy module storing interconnection information about an optimized top-level hierarchy are generated. Downsizing and power saving are realized by resource sharing and power management.